

**Harrington Middle School SeaBots**  
**Mt. Laurel, NJ USA**  
**Job Safety Analysis**

<b>Task</b>	<b>Hazards</b>	<b>Safety Precautions</b>
PVC Cutters	Blade may slip from hand and injure you or others nearby.	Point PVC cutter blade away from body and carefully cut the PVC pipe.
	May accidentally cut finger(s).	Hold PVC cutters with a firm grip and be aware of your surroundings.
	Cut pieces of PVC may fly off the PVC cutters, and hit someone.	One person holds both sides of the PVC pipe to make sure that no pieces fly off.
Tightening PVC Pipe	Hitting your hand with the mallet.	Make sure that you hit the PVC pipe precisely.
	Overtightening the PVC pipes to their connections.	Hit only once or twice with the mallet for a moderately tight fit. Once the ROV is complete, tighten the PVC and connections with screws.
Drilling	The drill could start spinning out along the surface of the control box, potentially breaking something fragile.	Hold the drill at a 90 degree angle. Drill a small pilot hole in the surface of the object.
	Fingers may be hit with drill bit.	Keep all hands / fingers at a reasonable distance away from the point of intercept.
Heat Tools (solder iron, heat gun, hot glue gun)	Risk of damaging valuable parts or equipment.	Use heat tools at a reasonable distance from equipment and teammates.
	Risk of burning yourself or others nearby.	Be aware of your surroundings at all times.
Testing Electrical Equipment / Power Connections	Electric shock due to direct contact with exposed wires.	Do not touch any exposed wires with your bare hands unless you are sure no power in the lines..
	Potential fire hazard due to exposed wires.	Check for flammable objects around the area (cloth, paper, etc.)
	Electrical short circuit when placed in the water.	Make sure that every electrical joint is waterproofed.
Testing ROV Functions	Risk of injury due to spinning propellers.	Do not put fingers near the thrusters, unless the power is off.
	Risk of pinching fingers between the manipulator arm gripper.	Keep fingers away from the gripper when it is being tested
Soldering Circuit Boards	Risk of burning yourself and others nearby.	Ensure that the solder iron does not touch anything except the joints, and only for a short period of time.
	Risk of burning circuit boards and frying components.	Hold circuit board carefully when soldering components to the board.